

CLAIMS

1. A knitted/woven concealed type slide fastener in which a continuous fastener element row (ER) composed of a synthetic resin monofilament is knitted or woven into a fastener element attaching portion (B) of a knitted/woven fastener tape (4) constituted of a warp knitting structure or a weaving structure at the same time when the fastener tape (4) is knitted or woven, the knitted/woven fastener tape (4) comprising a tape main body (A) and the fastener element attaching portion (B), with each coupling head (Eh) of the continuous fastener element row (ER) directed toward the fastener tape main body (A),

the knitted/woven concealed type slide fastener characterized by comprising:

multiple fixing yarns (11, 21 to 34) which are knitted or woven into the fastener element attaching portion (B) and which fix each element (E) of the continuous fastener element row (ER) onto the fastener element attaching portion (B),

wherein an exposed portion of each element (E) of the fastener element row (ER) covered with respective fixing yarns (11, 21 to 34) is located on a side of the coupling head, and when it is assumed that a distance from a front end of each coupling head (Eh) to an inside face of a connecting portion (Ec) is (a) while a dimension of each element (E) in a direction

of a leg portion thereof covered with the fixing yarns (11, 21 to 34) is (b), a value of (b/a) is larger than 1/2 and 4/5 or less.

2. The knitted/woven concealed type slide fastener according to claim 1, characterized in that a total thickness of each of the multiple fixing yarns (11, 21 to 34) for covering a surface of an upper leg portion of each element (E) is 1.5 to 5 times thicker than a thickness of other constituent yarns (1 to 3, 35-1 to 35-N) of the fastener tape.

3. The knitted/woven concealed type slide fastener according to claim 1, wherein one or more of warp yarns (1', 1'', 35-1, 35-2) at a bending portion (D) of the fastener main body (A) adjacent to a coupling head row of the fastener element row (ER) is composed of multifilament, and a single fiber size of a constituent filament of the warp yarn (1, 1'', 35-1, 35-2) is set to 0.5 to 1.5 dTex.

4. The knitted/woven concealed type slide fastener according to claim 3, wherein a total thickness of each of the warp yarn (1', 1'', 35-1, 35-2) at the bending portion (D) of the fastener tape main body adjacent to the coupling head row of the fastener element row (ER) is set larger than a thickness of other warp knitting yarns (1, 2) or warp weaving yarns (35-1 to 35-N) constituting a foundation structure of the fastener tape.

5. The knitted/woven concealed type slide fastener

according to claim 4, wherein a unit yarn of the warp yarns (1', 1", 35-1, 35-2) at the bending portion (D) is composed of two or more doubled yarns.

6. The knitted/woven concealed type slide fastener according to any one of claims 1 to 5, wherein at least a part of weft yarns (12, 13, 40) constituting the element attaching portion (B) of the fastener tape (4) and the tape main body (A) adjacent to the element attaching portion (B) have a dry heat shrinking percentage higher by 8 to 20% than that of other constituent yarns (1, 2, 11, 21 to 35-N) of the fastener tape.

7. The knitted/woven concealed type slide fastener according to claim 4, wherein all other constituent yarns (1, 1', 1", 2, 35-1 to 35-N) of the fastener tape (4) except the fixing warp yarn (11, 21 to 34) and the weft yarn (3, 12, 13, 40) are composed of multiple filament yarns, and a single fiber size of each constituent filament is 0.5 to 1.5 dTex.

8. The knitted/woven concealed type slide fastener according to claim 7, wherein a single fiber size of each constituent filament of the weft yarn (3, 40) which is part of the constituent yarns of the tape main body (A) is 1.5 to 4.0 dTex.

9. The knitted/woven concealed type slide fastener according to any one of claims 1 to 3, wherein the fastener tape (4) is constituted of a warp knitting structure, the fixing warp yarn is composed of a warp knitting yarn (11), and a total

thickness of the warp knitting yarn (1') adjacent to a wale proximate to the tape main body (A) is set larger than that of other composition knitting yarns (1, 1") of a foundation structure except the fixing warp knitting yarn (11).

10. The knitted/woven concealed type slide fastener according to claim 9, wherein the knitting yarns constituting a wale (W_4) knitted in the tape main body (a) most adjacent to the fixing warp knitting yarn (11) comprise two or more kinds of warp knitting yarns and two kinds of weft in-laid yarns (12, 13) which are weft-inserted and folded back to right and left direction with respect to a course direction in the wale (W_4), and at least the weft in-laid yarns (12, 13) in the right and left direction have a dry heat shrinking percentage higher by 8 to 20% than that of other composition knitting yarns of the wale (W_4).

11. The knitted/woven concealed type slide fastener according to claim 8 or 9, wherein the fixing warp knitting yarn (11) is composed of a chain knitting yarn, and a needle loop thereof strides over a top face of an upper leg portion of the fastener element while a sinker loop thereof is connected to the foundation structure.

12. The knitted/woven concealed type slide fastener according to claim 10 or 11, wherein the knitting yarns constituting the wale (W_4) knitted in the tape main body (A) most adjacent to the fixing warp knitting yarn (11) are composed

of a chain knitting yarn (1') and a tricot knitting yarn or two
needle stitch yarn.